

## **Meeting Summary**

### **Wood Supply Working Group Meeting**

#### **Analysis of Small-Diameter Wood Supply in Northern Arizona**

**September 17, 2007, Northland Pioneer College, Painted Desert Campus  
2251 N. Navajo Blvd., Holbrook, AZ**

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### **Introduction and Agenda Review**

Rosemary Romero (Meeting Facilitator) welcomed back the working group members and observers to the fourth group meeting. She opened the meeting by having working group and audience members introduce themselves.

#### ***Working Group members present at meeting (in order of presentation):***

- 1) Bill Greenwood, City Manager for the Town of Eagar
- 2) Molly Pitts, Executive Director of the Northern Arizona Wood Products Association
- 3) Herb Hopper, Community-based forest and wood products advocate, Little Colorado Plateau Resource Conservation & Development
- 4) Bob Taylor, Supervisory Natural Resource Specialist for the Apache-Sitgreaves National Forest
- 5) Steve Gatewood, Consultant, Wildwood Consulting Inc., representing the Greater Flagstaff Forests Partnership
- 6) Larry Stephenson, Executive Director of the Eastern Arizona Counties Organization (ECO)/Economic Environmental Counties Organization (EECO)
- 7) Todd Schulke, Forest Programs Director for the Center of Biological Diversity
- 8) Rob Davis, President/Owner of Forest Energy Corporation/Future Forests
- 9) Kim Newbauer, Timber Sales Contracting Officer for Coconino National Forest
- 10) Wally Covington, Director of the ERI and NAU Forestry Department Regents' Professor
- 11) Shaula Hedwall, Ecological Services, U.S. Fish and Wildlife Service
- 12) Sarah Lantz, Urban Wildlife Planner for Arizona Game and Fish Department (Region II Flagstaff Office)
- 13) Lisa McNeilly, Northern Arizona Program Director of The Nature Conservancy
- 14) Scott Higginson, Executive Vice President of NZ Legacy/Snowflake White Mountain Power, Renergy

#### ***Working Group members not present at meeting:***

- 1) Robert LaCapa, Forest Manager, DOI BIA Fort Apache Agency Branch of Forestry
- 2) Chuck Peone, Fort Apache Timber Co.
- 3) Paul DeClay, Tribal Forester, Forestry Department, White Mountains Apache Tribe
- 4) Elaine Zieroth, Forest Supervisor for Apache-Sitgreaves National Forest (alternate present: Bob Taylor)
- 5) Keith Pajkos, Timber Staff for the Arizona State Lands Department Forestry Division
- 6) Ethan Aumack, Director of Restoration Programs for Grand Canyon Trust
- 7) Jerry Drury, Timber Staff Officer for the Kaibab National Forest
- 8) Pascal Berlioux, President and Chief Executive Officer of Arizona Forest

Restoration Products, Inc.

9) Diane Vosick, Associate Director of the Ecological Restoration Institute (alternate present: Wally Covington)

***Meeting observers:***

- 1) Sue Sitko, The Nature Conservancy
- 2) Penny Pew, Office of Congressman Renzi
- 3) Bob Baltes, Federal Development
- 4) David Dorum, AZGFD
- 5) Ed Martin, SW Forest Products
- 6) Dave Brewer, ERI

Romero then turned the floor over to Haydee Hampton, the Forest Ecosystem Restoration Analysis (Forest Ecosystem Restoration Analysis; ForestERA) Project Manager leading this collaborative effort.

**Haydee Hampton:** *Wood Supply Team Introductions and Agenda*

Hampton reviewed the agenda and covered the major points that were to be covered at the meeting. She indicated to group members that she believed the portion of the scenario identifying areas appropriate for restoration treatment could be finished today, and she also told group members that there would be two presentations that were not covered the previous meeting, from ForestERA team members Jill Rundall and Steve Sesnie. She also explained that the agenda provided 2 hours for the group to define additional management objectives.

Hampton then discussed details about the remaining timetable for the working group:

**September 17:** Revise treatment scenarios and discuss treatment characterization and preliminary results of forest growth review.

Hampton informed group members that the wood user database scheduled for Oct 15 would be moved up to be discussed at this meeting by Gary Snider. She also told group members that they would need to decide whether or not they need the Oct 9 meeting.

**October 15:** Finalize treatment scenario; review draft wood volume layer and wood use database; decide on need for Oct 29 meeting.

**November 16:** Discuss wood supply results; discuss potential economic or other follow-up analyses - December 1st for final deliverables.

Hampton reported to group members that they should have received the Wood Supply Analysis Progress Report. She also indicated that the ForestERA team would like to receive comments from the working group by Thursday, September 27, 2007. She then mentioned that Region 3 Directors viewed the progress report and some had some questions and comments. Regarding the time frame of study:

- The ForestERA team is estimating current wood supply for a snapshot in time. The “ad hoc” committee which initiated this study recommended that any projections on current conditions be conducted within a 20 year time frame. She indicated that the team was presenting initial growth estimates for this period.
- A Region 3 director commented that re-entry is highly unlikely within a 20 year period.

- She also told group members that decisions about prioritizing treatments, assumption on acres treated/yr could be included in the report.

Hampton reviewed comments ForestERA had received after the last meeting regarding the use of FRCC LandFire data. Linda Wadleigh, Region 3 Fire Ecologist, who ForestERA staff had met with after the Sept. 17 working group meeting, indicated that the National Level LandFire FRCC layer was due out soon, but was not yet available and that she would not recommend using the Rapid Assessment LandFire FRCC layer that is available.

Hampton pointed out that the landscape level treatment characterizations used in this study will allow the estimation of wood supply, while detailed prescriptions will involve public interaction at a local level. She then referred the working group to the letter they had requested at the June 4 working group meeting from Harv Forsgren (Region 3 Forest Supervisor) which pointed out that results from this study would be useful for local level discussions. Hampton continued her session by explaining that no wood byproducts would result from burn only treatments, so in effect they would be excluded from the scenarios similar to the decision made about steep slopes. To this, one working group member commented that the use of heavy burn treatment will kill trees that could be use for salvage logging (and biomass as well pointed out another member), and we should explicitly state in the final report that we're not including these as available wood supply in the study.

Hampton then presented a slide about the potential number of treatment scenarios developed by the working group. She explained that it was up the working group to decide how many scenarios of which type would result from this process as it unfolded.

She explained that there were several possibilities:

- One agreed upon scenario
- More than one on which there is agreement
- More than one showing various levels of agreement
- More than one showing a mix

She then reviewed a slide about treatment prioritization and indicated that the ForestERA team needed input (about priority areas – for sequencing treatments) by the end of the October 15th meeting to have sufficient time to include this type of analysis in this study. She also mentioned that this was not a required part of the wood supply analysis. Hampton then continued her segment by discussing that there were at least two methods for prioritizing areas in need of management attention. The first was the identification of values at risk that collaborative groups had used at the previous landscape assessments in the area. She also reviewed the Treatment Optimization Modeling (TOM) that Brett Dickson presented at the July 18<sup>th</sup> working group meeting, and one straw man plan for using it to prioritize treatment locations together with values at risk:

- Develop layer showing potential treatments
- Run TOM to select optimal treatment locations (e.g., 10 or 20% of total area)
- Develop layer of priority areas across analysis area using values at risk method

- Use values at risk prioritization process to provide preferred sequencing of treatments within TOM areas

Q: How would the approved Community Wildfire Protection Plans (CWPPs) fit into this?

Hampton responded that the working group could handle this in several ways. At this point, one working group member explained that her WUI small group's talk fits into the where and when, as well as the treatment types, as far as prioritizations go. Another group member commented that they thought the prioritization might change, and they didn't believe the working group should go this route. Hampton explained that the working group could set out a specific time to discuss this topic. Romero suggested that the group could possibly do that after the presentations.

Hampton continued by saying that ForestERA was working together with working group members representing the White Mountain Apache tribe to develop methods and access to data to estimate reservation-wide wood volumes. She then commented that this had been identified by the Steering committee and others as important since there were significant volumes of ponderosa pines on the Mogollon Plateau located on reservation land.

Hampton moved onto a slide about identifying areas appropriate for restoration treatments that recover wood byproducts. She then outlined those areas that had been excluded by the layers:

- Initial acreage of ponderosa pine area = 2,030,195
- MSO – acres removed = 142,089; acres remaining = 1,888,106
- MSO,SDA – acres removed = 91,293; acres remaining = 1,796,813
- MSO,SDA, Slope – acres removed = 38,142; acres remaining = 1,758,671
- MSO,SDA, Slope, Soil with limited mechanized treatments – acres removed = 45,259; acres remaining = 1,713,412

Q: When you found 16% of the study area ponderosa pine removed, did you include areas of overlap? Hampton responded that the team counted areas only once, even if more than one factor (e.g., slopes and MSO PACs) occurred in the same location.

In addition to this information, Brett Dickson acknowledged that there might be a few PAC's missing from the A-S analysis, and a working group member commented that they didn't think it would be a significant portion of the PAC's. Hampton indicated that the group could come back to this slide and went ahead to the soil issue. She presented a slide with information about soils with mechanized equipment limitations

- Completed collection of soil information from four forests in analysis area
- ForestERA team members are checking back with soil scientists before finalizing layer
- Limitations based on a number of factors, including areas:
  - with erosion hazard
  - with shallow soils
  - with high rock content
  - prone to sheet and rill erosion once ground cover gets thin
  - prone to compaction when wet (secondary factor)

At this time, she referred to Dave Brewer about the soil survey information. He explained that the terrestrial soil survey data is useful because it is quite relevant for broad-based planning. He indicated that there are several good things about the soil survey including that the data goes through a detailed review process.

Hampton responded that the ForestERA team would continue working with soil scientists and refine the draft and then get back to the working group.

Q: You'll bring that back to us for recommendation, right? Hampton answered that the ForestERA team can do that.

Q: Can't soil damage be mitigated on the areas you have mapped? Brewer answered this by stating that some damage to sensitive soils areas can be mitigated, but that only the areas that were too difficult to mitigate damage from mechanized equipment were shown on the maps. Areas that could be mitigated were not included.

Hampton then moved forward with discussing completed and contracted (sold) treatments to check in with the group on how they were planning to proceed. She included several related points in her slide:

- Applies to treatments post-dating the remote-sensing imagery used to develop forest structure maps used in this process.
- For treatments with "exact" boundary information
  - Remove areas with intermediate and high intensity thinning treatments from scenario
  - Wood byproducts are assumed not available from these areas
- Include areas with light thinning or unknown treatment intensity in scenario
  - Wood byproducts are available from these areas

Hampton also commented that for areas in which treatment intensity data and boundary data do not exist (e.g., only stand exam data exists), the ForestERA team will account for these acres by adjusting analysis area wide volume and supply estimates.

Q: As far as your imagery dating, does that vary across the board? Hampton indicated that it does, and that the imagery acquisition dates ranged from 1997 to 2004.

**Jill Rundall and Haydee Hampton:** *Identify areas appropriate for restoration treatments that recover wood byproducts.*

Rundall indicated that she met with the different forests to discuss the areas with thinning treatments. She provided estimates about these areas, but acknowledged that some of the acres may have been treated more than once:

- |                                 |         |
|---------------------------------|---------|
| • Kaibab (1997-2006)            | 19,817  |
| • Apache-Sitgreaves (1997-2007) | Pending |
| • Tonto (2001-2007)             | 10,906  |
| • Coconino (n/a)                | Pending |

Rundall then presented a map of the Kaibab and Tonto treatment areas that she had made from data she had collected.

Q: So that 7,000 acres that you referred to do not include other forest areas? Rundall confirmed that they did not include non-ponderosa pine areas.

Hampton then went on to discuss the treatment guidelines for streamside management zones. She indicated that the team decided against carrying out a detailed analysis for several reasons. She indicated that there is a lack of finalized data for ADEQ's "unique" or "impaired" waters and the current version identifies few streams. Also, the ESA fish data are incomplete. She also presented that the ASNF is the only forest that precludes mechanized equipment from areas next to streams. The other Forests specify BMPs to mitigate damage, but no rules that specifically restrict equipment from these areas.

Q: Would it be useful to get an estimated percentage for what would be removed? Hampton commented that the Forest Service hydrologist on the ASNF was not able to give her a guesstimate, not even a ballpark number like 1% or 5%. One group member said that they had a feeling that when you take the steep slope out, streamside management zones wouldn't add very much. Another group member suggested doing a quick analysis by buffering streams throughout the study area by 100 feet, in order to gain a better understanding. Other group members agreed with applying this buffer to develop an estimate of streamside management zones. Hampton agreed that ForestERA would develop a layer of buffered streams to present to the group at the next meeting.

Hampton then returned to the areas removed from the group's scenario. She said the overlap among the layers was about 27% (119,242 acres). The total acres (considering overlap) were equivalent to about 324,105 acres.

Q: Does the overlap include the Clifton ranger district as well? Rundall answered that it only includes ponderosa pine areas, which are not prevalent on the Clifton RD.

Hampton moved onto discussing a last slide that included information about the Woody Ridge and other forest restoration projects reviewed for acres treated within the NEPA planning area. She indicated that the team found 2/3 of the areas had been thinned. She explained that 66% of Woody Ridge had been thinned, while Jerry Drury had conducted a study on the Kaibab NF and found that about 62% of areas were thinned.

Gary Snider commented that he was talking with Drury about how they got to the number 66%. Snider then referred to Kim Newbauer, and he indicated that the numbers included the areas he could think of. Hampton iterated that the idea here is to look at the project level to compare to the landscape level analysis being done for this analysis of wood supply. She expressed that this information could be used as a benchmark and it includes archeological sites and other factors that cannot be mapped out.

One group member commented that they felt the need for a more careful look at this. They indicated that on the Gila, they end up thinning more like 30-40% of the area, and that is dramatically less than 60%. This group member added that there's a pretty strong WUI objective that could possibly have an influence, and they also felt that it's a pretty important objective to address and decide how the group will deal with it. Another group member commented that they

would be reluctant to take a number and do anything, because the group needed to do an analysis instead, and get some numbers and ranges – instead of taking that 66% across the board. Romero suggested that the group could make sure to include a list of these factors in the report, as was mentioned by someone before. At this point, a group member commented that the group should not use a gross number that is not reality on the ground; they wanted the group to be very clear as to what the reality is that is done on the project level. To this, another group member commented that the working group has been talking about 6 factors today, but that they have other factors in their notes. This member wanted to clarify that the group wasn't saying only 16% is being taken off the map.

Q: We're not finalizing it at 16%; there are other factors, right? Hampton agreed that the working group could decide to add other factors as well.

One group member expressed that one of the things the group previously talked about was getting a supply estimate and a volume estimate. This group member explained that the group needed to think about the volume that is there and what will come out and how that will affect the supply. One group member responded that they thought the working group should account for northern goshawk nests. They suggested excluding 30-50 acres around goshawk nesting sites from sources of supply. Romero found that the group was in agreement on this issue and Hampton commented that ForestERA could map these areas and include them as additional acres removed. One group member thought that this data would provide a floor for the nesting treatments. Another group member felt that the group should pull out the areas where there is not treatment. Another group member explained that although it's a small number of thousands, when considering 30 acres for each nesting site it becomes more significant.

### **Define management objectives and select treatments**

Working group member, Sarah Lantz, explained that a small group met the week before to discuss the WUI and some various approaches, and she indicated that they would present some mapping exercises that the working group could use to share some ideas. The small group was trying to depict areas of highest priority for community protection to guide decision-making. Lantz indicated that each CWPP (Flagstaff, Tusayan, Williams, Mogollon Rim, Apache and Sitgreaves) had extremely variable definitions for indicating the priority areas and these did not cover the entire study area. However, the small group was able to come up with several proposed options:

1. Place ¼ mile buffers around private lands
2. Only include areas that the CWPPs identified as being high priority
3. Place a wind-vector of ½ mile downwind and 1½ miles upwind of private lands. This is related somewhat to HFRA definitions.
4. Place a wind-vector of ½ mile downwind and 1½ miles upwind of private lands within CWPP high priority areas and ¼ mile buffers around private lands outside of CWPP areas.

After consideration, the last proposal option was the most widely agreed upon. One working group member commented there were some other factors that weren't figured into the small group's analysis, such as power line corridors, etc. Lantz explained that the small group included several political, social, and scientific considerations.

Q: What was the thinking in option 4? Why expand CWPP areas by adding on the buffer zones? Lantz explained that adding the buffer zones doesn't expand it; instead it really helps to narrow it down. One group member responded that the working group needed to be careful when addressing this issue in the report. This member indicated that, "CWPPs actually redefine the WUI for their community. We are taking their priority areas and applying this buffer – we might not want to label this as WUI."

Q: What designates an area as priority in a CWPP? Lantz explained that each CWPP is different. One group member expressed their agreement with a previous comment about municipal watersheds and power lines. This person felt that the working group should be diligent to address and consider such issues at some point. Another group member mentioned that the group was defining a heavier treatment, not prioritizing the treatment. Lantz agreed and said that, "This doesn't say that this area gets heavier treatment than other ones; that's for the group to decide." To this, one group member included that the small group was showing treatment in their map that the working group decided to exclude (around the Blue River). Lantz affirmed that those areas would remain excluded in the working group's scenario.

Working group member, Steve Gatewood, then presented the "fire" small group's discussion results. Gatewood explained that the small group had talked about fire, specifically about which areas might be taken out of consideration as sources of supply because they had been potentially treated using fire only. He indicated that the small group made the suggestion that wood be utilized when possible instead of burning it in piles, and that the small group wanted to talk about fire as a tool (e.g., broadcast burning). Gatewood further explained that output from the Landfire/FlamMap models included surface, passive crown fire, and active crown fire, but that this did not account for fire spread; it only refers to the fire behavior that would occur in a pixel if that area was ignited. He commented that the small group had Brett Dickson do a 500-acre analysis where Dickson would group pixels and apply a fire behavior level to the 500-acre block. He assured members that this was not a fire spread model.

Gatewood continued his discussion by referring to the second example on the small group's worksheet. He explained that that issue was really their "straw man". Gatewood commented that using FlamMap-generated data for the study area identifies patches characterized by predicted surface fire, passive crown fire, and active crown fire; He added that the group determined surface fire-dominated patches to be "areas where prescribed burning and/or wildland fire use [WFU] are likely to be a preferred first management". Then, he explained that the group identified active crown fire-dominated patches as "areas where prescribed burning and/or WFU are unlikely to be a preferred first management approach". Lastly, Gatewood added that the group identified patches largely contained within high priority community protection zones as "areas where prescribed burning and/or WFU are unlikely to be preferred first management approach".

Q: Are you running the models assuming a 95<sup>th</sup> percentile weather scenario? Dickson explained that this is a work in progress, and that the ForestERA team can run the model using various weather scenarios.

Q: If you're going back into these areas and burning after mechanical treatment, why would we prioritize these areas? Gatewood responded that currently the Forest Service operates with this because fire is the cheapest option. One group member commented that the working group is

basing this decision on budget constraints and lack of industry constraints. Gatewood responded by saying that he believes a previous working group member indicated that the group should do as much burning as possible where feasible to avoid potential negative impacts of mechanical treatment. He added that there was a desire to use fire where it can be used, even if there is supply there. Another group member explained that this is the policy preference of several organizations represented by the Working Group. Another member added that these are policy preferences that are based upon assumptions, and that these aren't really documented.

Another group member indicated that they had a high level of discomfort with using FlamMap outputs to determine those areas where fire only treatments are appropriate just because they are identified as such on this map. One group member added that there is a strong opinion for an approach where fire can be used as the primary restoration tool. They felt that the perspective of using fire wherever possible is something that this group should be sure to discuss. In response, a group member explained that if this model was torn apart pixel by pixel, the group would not be able to see what happens when fire is the first option and mechanical treatment could be used too.

Q: Has there been any effort to work with the individual forests to see if they would agree that these models are dependable? Dickson explained that LandFire is holding a meeting in Albuquerque, in which experts on the ground would look at the same models the team was using here and they would decide if they agree with the models. One group member felt that the working group had to think about something a bit smaller than the 500-acre fire unit.

Q: Is this model part of the next step to put a fire-spread overlay? Again, Dickson responded, saying that all the team did was impose a small fire spread effect, being very conservative; they then went through the 500-acre exercise based on the assumptions of the model.

Romero then commented that fire only treatment group still had some work to do for the next meeting, and she iterated that the group had to come back to the WUI discussion.

Q: Can the small groups create summary documents and then hand them out to working group members? The small group leaders responded that they could do this.

Romero began the second half of the meeting by providing additional information about the remaining meetings:

**October 9<sup>th</sup>** meeting (if it takes place) will be in **Holbrook**;  
**October 15<sup>th</sup>** meeting in **Pinetop**;  
**October 29<sup>th</sup>** meeting (if it takes place) will be in **Flagstaff**;  
**November 16<sup>th</sup>** meeting in **Flagstaff**.

**Steve Sesnie:** *Wood volume estimation*

Sesnie began by discussing the forest growth and volume estimates for ponderosa pine forest type. He explained that his base set of plots came from the Forest Inventory and Analysis (FIA) PIPO type, which equals 327 plots. He also indicated that the plots were measured in the mid 90's, and that he would grow the plots to reflect conditions now and 20 years from now.

Sesnie then presented a set of average forest condition graphs, using a base set of information from FIA, outlining the 2007 and 2027 data from forest vegetation in the southwest United States.

Q: Does this model reflect regeneration? Sesnie indicated that he could add that to these model runs, but added that he didn't think the volume estimates would change that much. Q: Are you going to let us see what that equates to in 2027? Sesnie explained that that would require the team to grow the information forward by pixel; he added that he hasn't thought about how to do that yet.

Q: Can't you put the treatment data into that then? Sesnie affirmed that the team could do that. He explained that they could take an average plot condition and apply the treatment condition to it and see what that area will look like in 20 years. He also added that they would need another model to estimate forest growth pixel by pixel across the entire landscape.

Q: Is the 2007 baseline here our map? Sesnie responded by saying that it will be the date of imagery that was recorded in 2004. One group member commented that the data were based on the FIA plot, which is 1 plot per 6,000 acres, so it's not a very strong representation.

Sesnie also included a graph showing forest growth for 2007 and 2027. He explained that the small diameter volume made up about 30% for 2007 and 24% for 2027; small diameter basal area was 54% for 2007, while it was 36% for 2027. He warned the group that they should be careful about estimating the volume ranges because there is greater error associated with measuring narrower diameter classes. He then confirmed that he would take the FIA data and estimate forest volume across the ponderosa pine forest type, using a regression modeling approach. He presented this as a three-step process:

- FIA plots – reference data by volume class
- Data layers – CC, QMD, BA, TPA, biophysical variables (elevations)
- Error estimation – root mean square difference from observed and imputed variables

Q: What are other biophysical variables? Sesnie answered that these could include precipitation and other climate data.

Q: What about site indexes? Sesnie answered that the data could include site indices to estimate how growth behavior looks in the future.

Q: Have you decided what you will settle on in diameter size class? Sesnie explained that the team considered having a diameter range between 5-12 inches, 12 and above, and 5 and below. He added that he discussed this issue with John Bailey, a professor at Oregon State, who used to be at NAU and has a strong silvicultural background in ponderosa pine forests, who is involved in the project and together they thought that the break-point should be around 5 and 12 inches. Hampton added that they also reviewed the diameter class breaks recommended by the working group at the meeting with Bailey.

Sesnie's final slide looked at tree mortality and disturbance factors affecting volume estimates:

- Forest insect outbreaks
- Fire perimeter (BAER data)
- Fire severity
- Drought killed trees

Sesnie then commented that the first reason he used the growth model was to get the data points up-to-date. He explained that it does help give everyone an estimate of how much volume estimate can be expected at a given time. He added that density and site conditions are really what drive growth, so there is potential to estimate volume in that way.

Q: Is there a limit to the independent variables? Sesnie explained that other IV's could be added to the model, but that they likely wouldn't contribute to the accuracy of what he was doing. Sesnie then added that the team was planning on doing an independent assessment of the volume estimates.

**Jill Rundall:** *Updates on spatial data collection*

Rundall began her segment by reviewing a table summarizing spatial layers that the ForestERA team was almost finished acquiring. She continued with discussing the background information on roads and she referred to Chris Bielecki, ASNF Transportation Engineer, who suggests the group consider using a layer based on distance from arterial roads (i.e., roads already suitable for mechanized equipment). Rundall then presented a slide that represented the distance from system or arterial roads. Hampton reiterated that Bielecki had suggested that the layer might be useful to the working group in lieu of a complete roads layer which does not exist. She added that the information presented was in response to what the group wanted from last meeting. One group member commented that they didn't think the system road layer was useful because there weren't enough roads represented that will be used to harvest small-diameter material. This group member added that there are too few roads that are represented. Why don't we have better roads layer for the Forests when they are going through a Travel Management process? Another group member commented that [from A-S standpoint], there are about 3,000 miles of road that are not in the mapped data system; about 6,000 miles are in the system; only 2,000 of those are knowingly being used. This group member agreed with a previous comment that the distance from system roads layer was not valuable for the group's work. Rundall then showed the group a layer with both system and non-system Forest Service roads – the complete roads data set from the Forest Service. She commented that the layer was missing data for classes 1 and 2. A group member explained that Class 1 are closed roads and Class 2 are maintained roads.

Q: Can you characterize these roads? Rundall responded by saying that they were presenting the current data from the FS road system that is in their database. One group member commented that there are 3,000 miles of roads that are not logged into the system.

Q: Can we get the roads layer from the Coconino NF stemming from the Travel management process? Rundall confirmed that they will ask for this.

Next, Brett Dickson discussed information from treatment alternative worksheet given to working group members. He commented that the table included additional information that was recently developed with professor Bailey, and he then opened the floor for discussion about what was included in the table.

Q: Could you explain the numbers in the categories? Dickson explained that those are the stem reduction values, which were drawn from research and expert opinion.

Q: What is the thinning effort that has gone on around Forest Lakes? One group member commented that that would be the intermediate level – about a 60% reduction in stand density and 40% basal area.

Q: What's a sufficient large-tree component? Dickson iterated that *sufficient* refers to the need for a large tree component for the area to be restored in one entry. One group member

commented that they needed to work on the language to make it more usable for the working group. Dickson confirmed that the team could change the language for the working group.

Q: How do you define where you use these treatments? Can't we just start at existing conditions? Hampton explained that other groups have done that (i.e., in the White Mountain Landscape Assessment). She added that groups have specified ranges of forest structure metrics, such as, place thinning treatments where stem density >200 stems/acre. Hampton then presented several management objectives that previous groups had used:

- Reduce the risk of high intensity crown fires throughout study area
- Prioritize treatments in areas of highest risk for large fires and place higher intensity treatments where fires were predicted to burn more intensely.
- Protect and enhance habitat for endangered species, and minimize treatment impacts
- Treat areas upwind of Mexican spotted owl PAC's and excluded treatments within them
- Restore grasslands
- Select mollisol soil areas as indicators of historic grasslands
- Increase the quality and extent of special habitats, such as aspen stands and pine-oak woodlands
- Remove ponderosa pine from riparian systems and aspen stands

Q: As a group, can we have a discussion about defining a dozen desired conditions and figure out where to apply them? One group member proposed another approach - have a model of fire spread and risk that would define the treatments. Another group member explained that this approach could work from a fire management position, but not from a restoration position.

Q: Do you have information about the total volume that is on the forest floor today? Sesnie explained that the team didn't at this time but they plan hope to by next month.

Q: Can you aggregate areas into 100-acre sections? Sesnie confirmed that they could do this, but that the team needed to think of a size that was manageable.

Romero then asked the working group how they felt about the table. One group member commented that they were uncomfortable with the language. Several other group members claimed that they needed to define desired future conditions (DFC) first. Another group member added that they thought people wanted to see the forest structural attributes written in residual units instead of percent reduction. Hampton responded to this by stating that this could easily be done.

**Haydee Hampton:** *Define management objectives and select treatments (cont.)*

Hampton began the last part of the meeting by recording on screen the working group discussion they requested before the break on desired future conditions. One group member suggested finishing the WUI discussion first. Another responded by saying that the group should choose one of the WUI options. The working group decided to go with the fourth option presented by the WUI small group earlier in the day:

- WUI definition: Place a wind-vector of ½ mile downwind and 1½ miles upwind of private lands within CWPP high priority areas and ¼ mile buffers around private lands outside of CWPP areas.

The group discussed the following objectives that have desired future conditions (one member commented that the group should decide what to do in the WUI at this meeting. What are the desired post-treatment conditions in these areas?):

- Follow goshawk guidelines to reach VSS class targets in terms of % basal area (one member commented that the guidelines specify percentages for area covered, not basal area. Another commented that these are more appropriate to apply at project level)
 

VSS 1-2	3	4	5	6
20%	20%	20%	20%	20%
- Wildlands
  - Objective: Apply heavy thinning to predicted crown fire areas; apply moderate thinning to passive crown fire areas
  - DFCs based on pre-settlement conditions: BA: 40-60 ft<sup>2</sup>/acre and stem density: 30-70 trees/acre
- WUI
  - Objective: Reduce fire behavior to surface fire based on 500 acre patch size in WUI areas.
  - Several group members recommended that more extreme weather conditions (97<sup>th</sup> percentile instead of 95<sup>th</sup>) be used to predict fire behavior in the WUI to reflect the lower tolerance for fire risk in these areas. One member requested 99<sup>th</sup> percentile in the WUI.
- MSO PACs and restricted habitat
  - Apply 1.5 to 3 miles upwind buffer of packs or blocks of packs where intensive treatment buffer is needed. Discussion ensued that there are better ways to protect MSO habitat that using upwind vectors and the group agreed to explore these.
  - Base on MSO Recovery Plan threshold target habitat.

One group member commented that the goshawk VSS classes apply to fine-scaled project level considerations. Instead, they suggested that the group go back to the management objectives, because looking at desired future conditions would be too difficult. Several group members briefly discussed the issue of current forest structure and what is desired. One member recommended the group could determine a DFC in terms of how many tons could be removed; several group members commented that they would find it difficult to think about desired future conditions in terms of tons (several members concurred). The group then reviewed their draft treatment scenario worksheet on screen. One group member explained that the working group needed some ideas from the team to review next meeting and react to, in order to say that they agree or disagree with those ideas. Specifically, one member of the group commented that we'd like to tease out of the fire behavior models which have inputs of crown bulk density and other attributes, conditions in terms of basal area, tree density and canopy cover. Right now we can define the conditions we'd like and later we can assign forest structure values to them.

Several group members suggested that another group should be established, a "scenario attribute" group. A group member suggested having Shaula, someone from ERI and someone from Forest Service in the group. Hampton commented that the ForestERA team could pull this small group together but recommends they meet earlier than later to allow more time to pull map-based results together before the next meeting. Romero helped the group to select a date for

the fire and scenario attribute groups to meet: Fire group – 9/27 (10-12pm); Scenario attribute group – 9/27 (1-3pm).

### **Audience comments**

Bob Maltis commented that today was the first time that he heard that people considered fire only as a restoration treatment. He explained that he could get data from ear, nose and throat doctors related to the effects of smoke billowing through Prescott. He added that he could have that information available. Romero suggested that he provide the working group with that information in the form of a handout. Maltis agreed to get information to Hampton for the next meeting.

### **Gary Snider: *Updates on wood utilization database***

Snider summarized his work to date identifying wood harvesters, mills and manufacturers in the study area and quantifying the number of tons of material processed by each. He told group members that he talked with various contractors in the western Mogollon area at length. He indicated that virtually all of the wood was sent to SW Forest Products in 2006. He also included information about the White Mountains area, which included contractors like Walker Bros., Nutrioso Logging, and Tri Star Logging. He explained that this was wood coming out of National Forest lands, but not off reservation land.

### **Logistics**

Romero asked the group if they wanted to meet on October 9<sup>th</sup>. One group member commented that they were not convinced that working group members could meet in small groups and make progress before Oct 9<sup>th</sup>. They suggested meeting next on the already scheduled date of October 15<sup>th</sup> instead. Other group members agreed and added that the Oct 29<sup>th</sup> meeting was likely to be mandatory, however no final decision was made on this date.

Q: Can we get handouts soon from the small groups? YES – the groups (WUI group and fire group) indicated they would distribute handouts by the end of the week.